

ANNUAL REPORT 2024

30 CARTIF
ANIVERSARIO

CARTIF
TECHNOLOGY
GENERAL

ANNUAL REPORT 2024

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07 CARTIF highlights in 2024

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— José R. Perán González, Honorary Award from Castilla y León Económica, and Technological Innovation Award at the IX Bueyecillo Awards 2024

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— CARTIF joins the Circular Economy Pact of Castilla and León

94

— CARTIF becomes part of the Aldehuela Hub to boost the Health and Wellbeing sector

95

— CARTIF joins the Net-Pharma Hub as first strategic partner to reinforce its commitment to excellence

96



01

MESSAGES FROM
SENIOR MANAGEMENT



// Research for the market



At CARTIF, we look at the future with the conviction that our role as a technology centre is more relevant than ever. Our objective is clear: to continue developing useful, applicable and transformative technologies that generate real impacts for business, public administrations, and society as a whole. We aim to remain the trusted partner for those who seek to innovate and transform their processes, products and services.

One of our strongest commitments in this regard is to advance towards a **sustainable balance between competitive public funding and direct contracting with the private sector**. This balance not only provides economic stability for

the centre but also clearly demonstrates the value and market relevance of our work. The combination of both approaches enable us to maintain scientific and technical excellence while responding swiftly to the real needs of the productive sector.

Our strategic areas of focus will continue to evolve around four key pillars: advanced digitalisation, sustainability and the circular economy, energy transition, and the improvement of social wellbeing through technology. Through these areas, CARTIF will continue to generate solutions that address current challenges with a practical, market-oriented focus.

Above all, the challenge is clear: conducting **research that serves the market**. That is, to turn technology into a driver of business competitiveness and economic and social progress. To achieve this, we must strengthen our role as **key innovation agents**, acting as the bridge between science and its application, enhancing the value of knowledge generated within research organisation and transforming it into tangible solutions.

Technology centres play a fundamental role by contributing objectivity, expertise, and technical validation across the various stages of research and innovation projects. We act as agentes that helps turn uncertainty into decisions backed by evidence and long-term vision.

Realising this vision requires a strong and sustained commitment, especially from national and regional authorities. Structural and sustained support is needed; reflecting a genuine commitment to technology transfer, and enabling us to bring scientific advances even closer to businesses, helping them remain competitive in an increasingly demanding global environment.

CARTIF is ready to take on the path. We have the experience, the team, and the ambition to continue leading the way –through the application of science- towards a more innovative, sustainable, and people-centred future.

José Ramón Perán

General Director of CARTIF

// Strengthening our commitment to innovation



The year 2024 has been particularly significant for CARTIF, marked by the strengthening of our collaboration with businesses and steady progress towards solutions that address real market challenges. The celebration of our 30th anniversary has coincided with a clear consolidation of our innovation model, oriented towards impact.

Throughout 2024, we have reinforced our commitment to innovation by consolidating our valorisation and technology transfer strategy and strengthening a more direct and effective approach in linking our developments with their practical application. One of the key pillars of this progress has been the intensification of projects carried out directly with

companies, which have surpassed one hundred, with contracted revenue exceeding €3.8 million. These collaborations, built on mutual trust, have enabled us to co-create solutions aligned with industrial challenges, generating useful and applicable knowledge.

A prime example is the **CARNIVAL** project, where we work alongside companies in the meat industry to valorise waste such as blood, offal, and wastewater, transforming them into high value-added by-products. This type of initiative clearly reflects our strong commitment to technology transfer and our close relationship with the business sector.

Significant progress has also been made in 2024 on the **CLEANPORTS** project, which focuses on improving port logistics process through the integration of digital technologies such as artificial intelligence, digital twins, and collaborative robotics. The project aims to optimise cargo handling operations in

ports, as well as last-mile goods management, contributing to the sustainability and energy efficiency of the logistics sector.

Another noteworthy initiative is the development of the **HUMAIN** project, which explores flexible solutions based on artificial intelligence and the industrial internet of things (IIoT) to advanced towards safer, more efficient and sustainable Industry 5.0 products systems. The project involves the development of predictive systems capable of anticipating issues before they arise, along with collaborative robotics solutions applied to logistic tasks such as packaging and palletising –even when dealing with variable product condition. These technologies are enabling more versatile, sustainable, and efficient process, in line with emerging paradigms in advanced manufacturing.

On the international stage, CARTIF has taken on a leading role as coordinator of the European project **MOBILITIES4EU**, launched in January 2024 with the aim of transforming urban mobility systems. By implementing solutions focused on electrification, automation, and connectivity, this project is contributing to the decarbonisation and digitalisation of transport in major European cities, with high-impact pilot actions in logistic environments and public networks in Madrid and Dresden. It is a clear example of how technology can help build more sustainable, intelligent and liveable cities.

Behind each of those projects is a dedicated, multidisciplinary team: over 200 professionals, including 42 PhD holders, sharing a common vision –to create value through technology. Their daily work underpins every achievement we achieve. Their talent and commitment are our greatest guarantee for the future.

Today, CARTIF is a technology centre more attuned to the needs of industry, more agile in its responses, and more determined than ever to continue delivering practical solutions. Our sincere thanks to all who continue to accompany us on this journey.

Sergio Sanz Hernando

Deputy General Director of CARTIF

A photograph of a modern building's exterior, featuring a grid of large glass windows and dark metal frames. The sky is visible in the upper right corner. The number '02' is overlaid in large white font on the left side of the image.

02

**GENERAL
INFORMATION**

//What is CARTIF?

CARTIF is a multidisciplinary technology centre whose primary mission is to generate technological knowledge and provide innovative solutions to business, enabling them to improve their processes, systems, and products thereby enhancing their competitiveness and creating new business opportunities.

With 30 years of experience, CARTIF's research team remains fully committed to these principles, working daily to strengthen and drive the growth and development of the technology centre.

CARTIF retains the multidisciplinary nature with which it was founded and operates across five sectors or business areas, ranging from industrial solutions, energy and environment, construction and infrastructure, to agri-food, health, and quality of life.

//Mission

To be a benchmark in **applied research, technological development and innovation** in processes, products and systems, offering comprehensive multidisciplinary solutions that generate high impact through their capacity for anticipation and engagement with society, the business sector and academia.

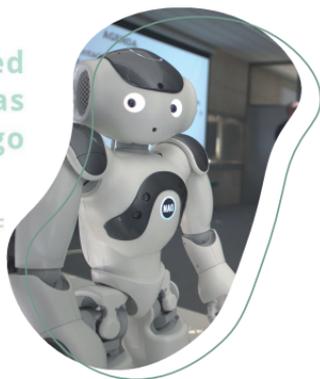
Vision//

The outcomes achieved in our research lines enable us to provide comprehensive services in technological development and innovation for companies.

Moreover, participating in strategic alliances with leading business and technology centres allows for scientific exchange of knowledge and experience.

“The spirit of innovation, combined with collaborative work, is what has allowed us to create solutions that go beyond technology”

Sergio Sanz Hernando, Deputy General Director of CARTIF



Values//

Excellence. Striving for the highest quality in all activities undertaken, with the aim of being recognised as a benchmark-both within the organisation and by society at large.

Sustainability. Developing the organisation to meet present needs without compromising future continuity. All efforts are guided by a clear commitment to Corporate Social Responsibility and contribution to environmental sustainability.

Enthusiasm and Creativity. A collective spirit marked by high level of involvement and motivation, with a strong capacity to generate ideas and initiatives.

Commitment to Regional Development. Driving the sustainable development of the region to enhance quality of life and increase its competitive capacity.



//Members of the CARTIF Foundation

Governance

José R. Perán González. General Director of CARTIF

Sergio Sanz Hernando. Deputy General Director of CARTIF

Patronate

Presidency. Huercasa

Vice-presidency. CEOE Castilla y León

Secretariat. University of Valladolid

Members:



Associated companies. Acciona, Aciturri, Ayuntamiento de Boecillo, Carbueros Metálicos, Divisa IT, Iberdrola, Industrias Río S.L, Unicaja Banco, Veolia

Technology advisors

D. Fernando Aldana Mayor. Professor of Electronics at the Polytechnic University of Madrid and Former Secretary General of the CYTED Programme

D. Jordi Aguiló Llobet. Emeritus professor at the University of Barcelona

CARTIF in figures //

72
Clients

212
Staff

42 PhD

103
3,8M€

Projects

With Companies

13
5,1M€

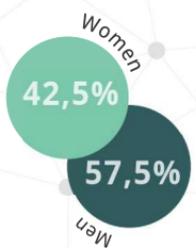
Projects

International

2
1,2M€

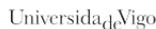
Projects

Regional



15,2M€
Income

//2024 CLIENTS



ACCREDITATIONS AND CERTIFICATIONS //

CARTIF has two laboratories accredited in materials, composites, paints, varnishes, sealants, resins and wood pellets testing by ENAC (nº335/LE1276), and non-materials testing according to Nadcap aerospace standard AS7003.



It is also certified by AENOR in “Quality Management” and “Environmental Management” (ISO 9001 an 14001) and in “R&D&I Management” (ISO 16602).



ER-0072/2002



GA-2003/0031



IDI-0001/2004



// PLATFORMS, NETWORKS AND ASSOCIATIONS



// Automotive



Cibersecurity//



// Energy



Health//



// Industry



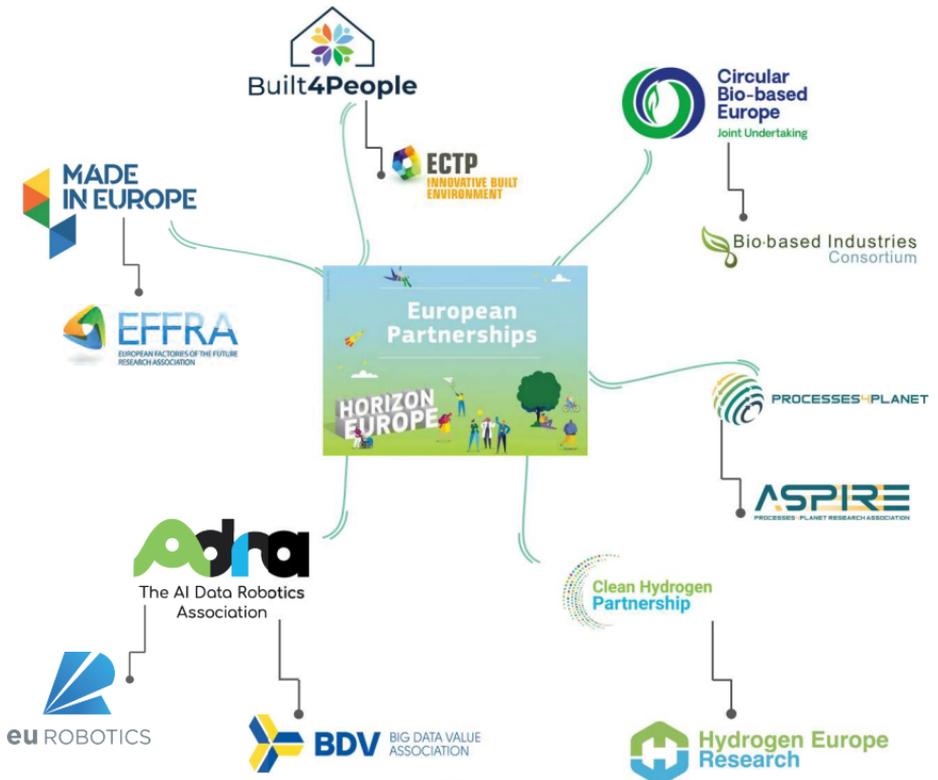
Building and City//



// Agrifood



EUROPEAN COOPERATION //





03

**MONITORING OF
CARTIF'S EQUALITY PLAN**

According to **CARTIF's Equality Plan** –registered in November 2021 and valid for four years– the technological centre reaffirms its commitment to fostering a working environment based on equal opportunities, eliminating any barriers that may hinder the professional development of its staff.

Among the measures implemented throughout 2024, and under the coordination of the Monitoring Committee in charge of its implementation, the training actions that CARTIF's staff have carried out aimed at consolidating a work environment based on an inclusive culture, as well as providing the necessary tools to prevent and address possible cases of unequal treatment, stand out.

These trainings have been given by the consultancy firm ERRESE, specialised in social responsibility:

- **'Equal opportunities'** training, received by the entire staff of the centre.
- **'Diversity and inclusion'** training, received by the Monitoring Committee of the Equality Plan and CARTIF's management staff.

